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ABSTRACT

A study involving 81 freshmen nursing students at Westark Community College was conducted during 1975-76 to determine the role reading proficiency plays in the academic success of nursing students and the extent to which a developmental reading course improves reading capability. Using the Nelson-Denny Reading Test, student vocabulary, comprehension, reading rate, and total reading ability were measured in Fall 1975 and again in Fall 1976. The academic grades earned by the students in nursing technology and human biology courses were compared with the test results, and the reading improvement of the 12 students who underwent remedial reading instruction was compared with the improvement registered by a sample of students who had similar pre-test scores but who had not taken the developmental course. Study findings indicate that, with few exceptions, students with higher reading levels achieved higher grades and that reading rate was the least significant of the four variables in academic success. The development reading students registered higher mean gains in all reading areas than did the other students. The study report provides data tables illustrating test results. (JP)

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# A COMPARATIVE STUDY OF READING SUCCESS AND GRADE POINT AVERAGE OF WESTARK COMMUNITY COLLEGE FRESHMAN NURSING STUDENTS

by

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ABSTRACT: The focus of this paper is twofold:
(1) an attempt to determine the role reading proficiency plays in the academic success of the prospective registered nurse seeking the associate degree, and (2) to what extent students, due to an initial low score in reading, improve their reading scores after a developmental reading course. Grade point averages of the 91 Westark Community College nursing students were computed according to the students' reading levels in vocabulary, comprehension, total, and reading rate to determine how grade point averages compare with reading proficiency. Vocabulary was found to be the most significant indicator of academic success. The mean gain of reading level and grade point average of 12 students who completed a developmental reading course was compared to 12 students with corresponding scores who had only one year of nursing and no reading course. The 12 developmental reading students total mean gain was 4 months greater than the 12 sample students, however, the grade point averages were similar.

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## INTRODUCTION

The community college with its open-door admissions policy and its wide range offerings of occupational and academic programs, encourages students to enter or return to college with no regard to backgrounds and capabilities. Many have the reading skills needed while others are barely functionally literate. (Henderson, 1976; Olsen and Swiss, 1976)

Research shows that educators have been concerned for sometime that many students do not succeed in college because of ineffective reading skills (Aster, 1968; Bryan, 1971; U. S. Office of Education, 1974, Ambrosino, Brading and Noval, 1974).

It is not difficult to imagine a nursing student with weak reading skills quickly overwhelmed by the demanding reading schedule. The previous research indicates that all community college nursing schools will be confronted with students having weak reading skills, but having the motivation, adjustment and the potential for the qualities of a desirable nurse. With the promise to help one improve or bridge the educational gap, the community college must provide developmental courses to help the udent overcome the deficiency in basic skills that provide for academic success.

### Selection of Participants

The participants of this study were the first year nursing students

of 1977-78 fall and spring semesters. The Nelson-Denny Reading Test, Form C, was administered in September, 1975, and a post-examination, Form D, was administered in September, 1976. The academic grades for the nursing tech and human biology courses were recorded and comparisons made with reading test scores. Of the 164 pre-tested students, there was completed data on only 91 nursing students. Forty-one students dropped from nursing during the year and for the remaining 32 there were either those who did not take the post-test or did not complete a course.

## Comparative Data

From the 91 Westark Community College students tested with Nelson-Denny Reading Test, Form D, in September, 1977, the mean grade point average was determined by a breakdown of vocabulary, comprehension, total and rate grade equivalent scores. Data breakdown is presented in the following tables:

TABLE 2

Vocabulary

| PRE-INTERVALS | GPA INTERVALS | NUMBER COMPLETED | NUMBER DROPPED | MEAN MEDIAN | GPA |
|---|---|---|---|---|---|
| 15.9-15.0 | 4.0-2.25 | 29 | 13 | 3.5 | 3.29 |
| 14.9-14.0 | 4.0-1.5 | 19 | 11 | 3.2 | 3.14 |
| 13.9-13.0 | 3.5-2.0 | 12 | 4 | 3.0 | 2.93 |
| 12.9-12.0 | 3.5-2.0 | 10 | 1 | 2.5 | 2.60 |
| 11.9-11.0 | 3.25-2.25 | 12 | 3 | 3.0 | 2.81 |
| 10.9-10.0 | 3.75-2.75 | 3 | 1 | 3.25 | 3.25 |
| 9.9-9.0 | 2.75-2.25 | 2 | 5 | 2.5 | 2.5 |
| 8.9-8.0 | 3.0-2.25 | 4 | 3 | 2.5 | 2.41 |
| | | N- 91 | N- 41 | | |

TABLE 3

Comprehension

| PRE-GE INTERVALS | GPA INTERVALS | NUMBER COMPLETED | NUMBER DROPPED | MEDIAN | MEAN GPA |
|---|---|---|---|---|---|
| 15.9-15.0 | 4.0-2.0 | 18 | 7 | 3.25 | 3.09 |
| 14.9-14.0 | 4.0-2.5 | 17 | 5 | 3.5 | 3.29 |
| 13.9-13.0 | 4.0-2.0 | 16 | 5 | 2.75 | 2.76 |
| 12.9-12.0 | 4.0-2.75 | 6 | 5 | 3.0 | 3.16 |
| 11.9-11.0 | 3.5-2.0 | 12 | 5 | 2.5 | 2.68 |
| 10.9-10.0 | 3.0-1.25 | 3 | 3 | 2.5 | 2.42 |
| 9.9-9.0 | 4.0-2.75 | 6 | 3 | 3.5 | 3.5 |
| 8.9-8.0 | 3.5-2.25 | 7 | 6 | 2.75 | 2.75 |
| 7,9-7.0 | 3.25 | 2 | 2 | 3.25 | 3.25 |
| 6.9-6.0 | 3.75-2.25 | 3 | 0 | 3.25 | 3.08 |
| 5.0 | 2.25 | 1 | 0 | 2.25 | 2.25 |

N- 91 N- 41

TABLE 4

| PRE-GE INTERVALS | GPA INTERVALS | Total NUMBER COMPLETED | NUMBER DROPPED | MEDIAN | MEAN GPA |
|---|---|---|---|---|---|
| 15.9-15.0 | 4.0-2.5 | 23 | 9 | 3.5 | 3.31 |
| 14.9-14.0 | 4.0-2.0 | 19 | 7 | 3.0 | 3.31 |
| 13.9-13.0 | 4.0-1.25 | 30 | 8 | 2.75 | 2.85 |
| 12.9-12.0 | 3.5-2.0 | 9 | 5 | 3.0 | 2.88 |
| 11.9-11.0 | 3.25-2.25 | 8 | 3 | 3.0 | 2.84 |
| 10.9-10.0 | 3.25-2.25 | 5 | 4 | 2.75 | 2.75 |
| 9.9-9.0 | 3.25-2.25 | 4 | 1 | 3.0 | 2.88 |
| 8.9-8.0 | 3.75 | 1 | 4 | 3.75 | 3.75 |
| 5.0 | 2.25 | 1 | 0 | 2.25 | 2.25 |
| | | N- 91 | N- 41 | | |

TABLE 5

Reading Rate

| PRE-GE INTERVALS | GPA INTERVALS | NUMBER COMPLETED | NUMBER DROPPED | MEDIAL | MEAN GPA |
|---|---|---|---|---|---|
| 15.9-15.0 | 4.0-1.25 | 30 | 12 | 3.0 | 2.97 |
| 14.9-14.0 | 3.5-2.0 | 6 | 0 | 3.0 | 2.91 |
| 13.9-13.0 | 4.0-2.0 | 7 | 3 | 3.0 | 3.07 |
| 12.9-12.0 | 4.0-2.25 | 19 | 4 | 3.0 | 3.05 |
| 11.9-11.0 | 3.5-2.25 | 3 | 0 | 3.25 | 3.0 |
| 10.9-10.0 | 3.5-2.0 | 5 | 3 | 2.75 | 2.85 |
| 9.9-9.0 | 3.25 | 1 | 4 | 3.25 | 3.25 |
| 8.9-8.0 | 4.0-2.25 | 4 | 5 | 3.5 | 3.25 |
| 7.9-7.0 | 3.5-3.0 | 5 | 4 | 3.25 | 3.25 |
| 6.9-6.0 | 2.75-2.25 | 3 | 2 | 2.5 | 2.5 |
| 5.9-5.0 | 3.75-2.25 | 8 | 4 | 3.0 | 2.90 |
| | | N- 91 | N- 41 | | |

The original intent in post-test was to possibly determine to what extent Westark Community College's developmental reading courses played in assisting the student to succeed in nursing in comparison to the students who did not take developmental reading. Of the 91 students used in the study, there were only 12 who had taken developmental reading. Table 6 below compares the mean gain in vocabulary, comprehension, and reading rate and grade point average of those students referred to developmental

reading due to initial low reading scores with those of a sample of the same group of 91 second year nursing students who had comparable reading scores in vocabulary and were not requested to take developmental reading.

TABLE 6

Mean Gain of Reading Level and Grade Point Average

| | Vocabulary Mean Gain | Comprehension Mean Gain | Total Mean Gain | Reading Rate Mean Gain | GPA | |
|---|---|---|---|---|---|---|
| Developmental Reading Students | 1.3 | 1.5 | 1.3 | 1.5 | 2.6 | N=12 |
| Sample Students | .7 | 1.2 | .9 | .2 | 2.8 | N=12 |

## SUMMARY AND CONCLUSIONS

From the four factors analyzed, vocabulary, comprehension, total of vocabulary and comprehension and reading rate, it was found that reading rate was the least significant factor in prospective success in grade point average. The students whose scores fell within 7.0 and 9.9 intervals had significantly higher grade point averages indicating that the technical nature of nursing texts limits speed.

Tables 2, 3, and 4 emphasize the fact that generally people who have higher reading levels have higher grade point averages. Yet, there are a few who for any number of reasons such as personal motivation, perseverance or whatever still maintain acceptable academic standards.

Students taking a year of nursing would be expected to raise their reading level score as a natural consequence of reading being a skill. As indicated in Table 6, students can improve their reading level significantly by following a prescribed procedure that is developmental in nature.

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